CLAIMS

What is claimed is:

1. A system, comprising:

a three-dimensional (3D) volumetric display output configuration having a display content; and

an input configuration coupled to the volumetric display output configuration and comprising a passive sensor allowing a user to affect the display content through the passive sensor.

2. A system as recited in claim 1, wherein the sensor comprises a motion tracking camera.

3. A system as recited in claim 1, wherein the sensor comprises a glove and glove tracking system.

4. A system as recited in claim 1, wherein the sensor comprises a touch sensitive surface.

5. A system as recited in claim 1, wherein the sensor comprises magnetic filed tracking system.

6. A system as recited in claim 1, wherein the output configuration comprises one of a dome, a cylinder, a cubical box and an arbitrary shape.

7. A system as recited in claim 1, wherein the input configuration comprises one of a 3D volumetric input space mapped to the 3D volumetric display, a planer 2D input space mapped to the 3D volumetric display, a planar 2D input space mapped to a planar 2D space within the 3D volumetric display, and a non-planar 2D input space mapped to the 3D volumetric display.

8. A system as recited in claim 7, wherein the user produces inputs comprising one or directly with a hand, with a surface touching device and with an intermediary device.

9. A system as recited in claim 7, wherein the input configuration further comprises one of an input volume adjacent to the display, an input volume surrounding the display, a digitizing surface covering a surface of the display, a digitizing surface offset from the surface of the display, and an intermediary device used with the display.

10. A system as recited in claim 9, wherein the intermediary device comprises one of a stylus, a surface fitting mouse, a park able mouse, a multi-dimensional mouse, a movable input device positioned on a bottom periphery of the display and a set of identical input devices positioned spaced around a bottom periphery of the display.

11. A system as recited in claim 1, wherein the input configuration comprises a non-planar 2D input space mapped to the 3D volumetric display.

12. A system as recited in claim 1, wherein the input configuration comprises a tracking system tracking a user.

13. A system as recited in claim 1, wherein the input configuration is non-spatial.

14. A system as recited in claim 1, wherein the input configuration comprises a voice recognition system allowing the use to affect the display content using voice commands.

15. A system as recited in claim 1, wherein the input configuration and output configuration define a spatial correspondence between an input space and an output space.

16. A system as recited in claim 15, wherein the spatial correspondences comprises one of 3D to 3D, 2D planar to 3D, 2D planar to 2D planar and non-planar 2D to 3D.

17. A system as recited in claim 14, where the input configuration, output configuration and the user define a dynamically updatable spatial correspondence.

18. A system, comprising:
a dome shaped three-dimensional (3D) volumetric display having an enclosure surface;
an input configuration comprising a digitizing system passively digitizing actions by the

user; and

a computer coupled between the display and the digitizing system, producing 3D content displayed in the display, mapping the non-planar position coordinates to a 3D coordinate position in the display by offsetting along the vector by an offset distance from the tip and affecting the content at the 3D coordinate position.

19. A method, comprising:

interacting, by a user, with a three-dimensional (3D) volumetric display via a passive detecting system; and

affecting the 3D content of the display responsive to the interaction.

20. A method as recited in claim 19, wherein the display comprises a camera and said interacting comprises tracking movements by the user with the camera.

21. A system, comprising:

a three-dimensional (3D) volumetric display output configuration having a display content; and

an input configuration coupled to the volumetric display output configuration and allowing a user to affect the display content, said input configuration comprising a touch sensitive surface overlaid on said display.

22. A system, comprising:

a three-dimensional (3D) volumetric display output configuration having a display content; and

an input configuration coupled to the volumetric display output configuration and allowing a user to affect the display content, said input configuration comprising a light ray projection system projection a ray into on said display.

23. A system, comprising:

a three-dimensional (3D) volumetric display output configuration having a display content; and

an input configuration coupled to the volumetric display output configuration and allowing a user to affect the display content, said input configuration comprising a surface motion system

detecting motion on a surface of said display.

24. A system, comprising:

a three-dimensional (3D) volumetric display output configuration having a display content; and

an input configuration coupled to the volumetric display output configuration and allowing a user to affect the display content, said input configuration comprising a camera sensing a state of an input object.

25. A system, comprising:

a three-dimensional (3D) volumetric display output configuration having a display content; and

an input configuration coupled to the volumetric display output configuration and allowing a user to affect the display content, said input configuration comprising an input device moving in three dimensions on a surface of said display.